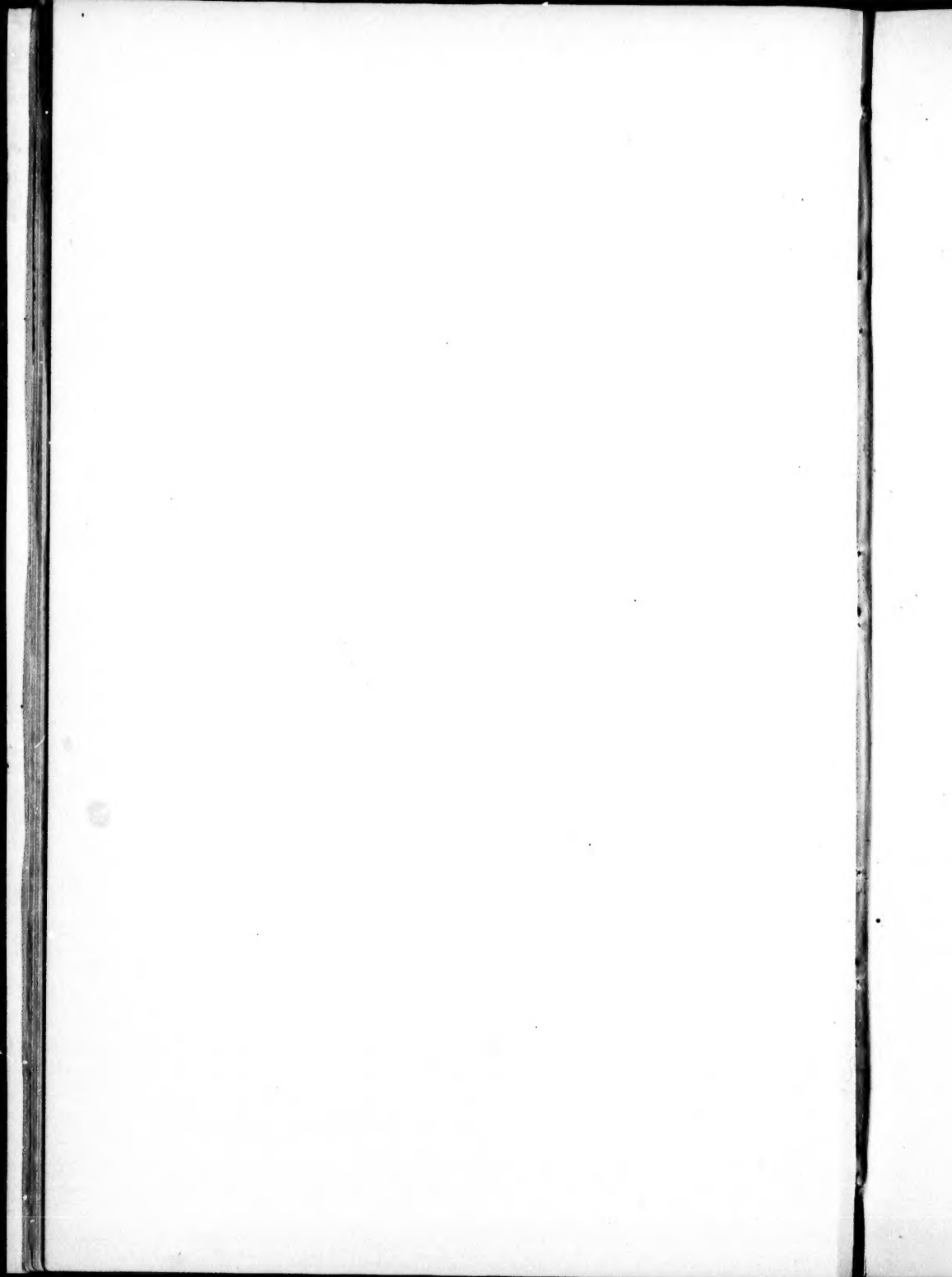

SOME
LAWS OF PHONETIC CHANGE
IN THE KHITAN LANGUAGES.

BY JOHN CAMPBELL, M.A.

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In several published articles, some of which were read before the Canadian Institute, I have given comparative vocabularies illustrating the connection of the American languages with those of the Old World. Among ethnologists there is a strong prejudice against this mode of procedure, a prejudice arising partly from an unwillingness to undertake the labour necessary for an appreciation of the results obtained; partly, it may be, from a suspicion that the vocabulist has been too anxious to prove his point to be scrupulous about the means; and, in particular, from the possibility or probability that the resemblances exhibited are nothing more than such chance coincidences as will appear more or less in comparing any two languages in the world. A similar prejudice might have opposed, and in many minds probably did for a time oppose, the reception of the Indo-European family of languages, for the resemblances presented in their vocabularies as compared among themselves are not a whit more striking than those which characterize a comparison of the languages of north-eastern Asia with those of the principal native races of North and South America. This, however, distinguishes the two linguistic fields; the Indo-European is infinitely better known. Now, speaking of that field, Professor Max Müller tells us that, as far as etymological science is concerned, identity or similarity of sound or meaning is of no importance whatever. This, of course, is true when we are dealing with individual words, but to apply such a rule in the case of a general comparison of vocabularies would be to remove the foundation on which the classification of languages has been laid and from which comparative etymology has sprung. As well go to the extreme at once, and, with Schleicher,

assert that grammatical construction is the only test of linguistic affinity, as if no great changes had taken place in such construction, soul of language though it be, even within the period of modern history. Putting aside such extreme views, or perhaps, as it would be more just to term them, extreme statements, and asking the philologist to suggest some valid criterion of relationship among languages which we deem to be connected and whose grammatical systems are, to say the least, not discordant, he will probably invite us to discover among them such a process of phonetic change as has been illustrated in the case of the Indo-European languages by the well-known Grimm's law. Now it is precisely such a law, or a portion of such a law, that I profess to have found, after a somewhat laborious and careful examination of those New and Old World languages which may constitute provisionally the Khitan family.

The name requires explanation. About the middle of the tenth century, a foreign horde, whom the Chinese annals know as the Khitan, descending from the north, took possession of Manchuria, and extended their sway over the whole of Northern China. For two centuries they maintained themselves as the rulers of that empire, being recognized in Chinese history as the Liao Dynasty, and were then expelled to the north-east by the Nyuche, a supposed Mantchu tribe, who ruled in their place as the Dynasty of Kin. It was these Khitas or Khitan, for the final *n* is the Khita mark of the plural, who gave to the Celestial Empire its mediæval name Cathay. Some of the Chinese historians derive the Khitan from the desert of Kobi, but, farther to the north about the sources of the Yenisei, and throughout Southern Siberia according to Tartar tradition, their remains are found. These are tumuli, similar to the mounds of this continent, containing arms and ornaments, and sculptured inscriptions upon adjoining rocks in an unknown hieroglyphic character. The Tartars call the tumuli *LI KATEI*, or the tombs of the Cathayans. Tumuli of the same character as those of Siberia, accompanied in many cases by cup shaped and other rude sculptures agreeing in outline with those found in many parts of this continent, appear in India, where they are regarded as the work of a Turanian people, the Indo-Scyths of history. These must have been none other than the Kathaei of Arrian and Strabo, whom Alexander the Great encountered at Sangala in the Punjaub. The very name Sangala is Khitan, for from the Songari River the Khitan are said to have

descended upon China ; to the country of Saghalien they retired ; and their presence farther east in Japan is marked by the straits of Sangar. Sangura again or Sagura was the name of a river in the country of the Khita or Hittites, according to the Assyrian inscriptions, and its ethnical character is apparent in its use as the proper name of one of the greatest Hittite monarchs, Sangara of Carchemish. Several native references to the Indian Sangala, as well as that of Isidorus Characenus, make it plain that its population was not Aryan, but Turanian or Indo-Scythic. In the third century, A.D., these Indo-Scyths were expelled or subdued, and at that point the migration northwards through Tartary to Southern Siberia must have commenced. It is natural to suppose, in the want of definite information, that the Kathaei or Khitan reached the Punjaub from the west by skirting the northern boundary of the Persian empire, arriving in their Indian home at or before the fourth century, B.C., when Alexander found them there. The Persian chronicles class among the northern peoples of Touran the Khatai, and link them with Shankul, Prince of Hindustan, another Sagala or Sangala. The original cause of their movement eastward was the capture of the Hittite capital Carchemish on the Euphrates by Sargon, King of Assyria, in 717 B.C., and the consequent dispersion of a brave and restless people unwilling to live under a foreign yoke. Many tribes, as has been shown by Professor Sayce, Dr. Hyde Clarke, and others, found their way into Asia Minor, where Hittite dynasties reigned down into the days of Rome's supremacy. Others, long ages before, when the Kheti invaded the land of the ancient Pharaohs, leaving their Syrian domain, planted colonies in northern Africa, and even penetrated into Europe. But the great bulk of the Hittite population took refuge in the Caucasus, and from thence by dint of pressure, internal and external, forced its eastward way along the route that has been traced in retrograde order, from the Caucasus to the Punjaub, from the Punjaub to the Yenisei, from the Yenisei to the Songari, and thence to Corea, Japan, the Kurile Islands, Kamtchatka, and, finally, as far as the Old World is concerned, to the Aleutian chain. They carried with them their practice of mound building, their peculiar hieroglyphic character, and their own geographical and tribal nomenclature. The mounds begin with the Tells of Syria, are followed on the west by the Lydian and other similar tombs of Asia Minor, on the east by the tumuli of the Caucasus,

India, Tartary, Siberia and Japan, and on this continent give name to their otherwise unknown architects, the Mound Builders. At Carchemish and Hamath, in Phrygia and Lydia, the Hittite hieroglyphics strange and distinctive remain as monuments of Khitan empire and journeyings. The Cypriote syllabic notation has borrowed largely from them; the Libyan and Kelt-Iberian alphabets are their descendants. Some of the more characteristic symbols appear on rudely sculptured rocks in India; the alphabet of Corea preserves many forms identical with those of Hamath; and, in this western world, the few surviving inscriptions of the Mound Builders are unmistakably Hittite, while the Aztec paleography is but an adaptation of the ancient symbolism of Syria to the productions and necessities of a new land. The Hittites of the Hebrew Scriptures are the Kheti of the Egyptian, and the Khita of the Assyrian records, the Ketei of Homer, who left their name to the Keteus river in Mysia, the Kathaei of the Punjaub, the Katei of Siberia, and the Khitan of Chinese history. When, in the 12th century, the Aculhua Tepanecs, traversing the length of the North American continent, arrived in Mexico within the borders of the Chichimec kingdom, they sought to conciliate its monarch Nopaltzin by the tidings that they belonged to the same ancient stock from which he was descended, that namely of the Citin, a race illustrious by its nobility and heroic deeds. Hamath, a Hittite word, yields its meaning only when we discover it in the native name of Japan which is Yama-to, the mountain door; and this again explains the Bible expression, "the entering in of Hamath." Hittite colonists, or Greeks who had dwelt with Hittites in Asia Minor, carried the word into Europe as Haemus and Hymettus. The Kathaei carried it with them to India, where it became on Aryan lips Himavat, afterwards to change to Himalaya. Among the survivals of the ancient name on this continent I may mention Yuma, that of a tribe in south-western California to which, with the other members of the family so designated, I shall have occasion to refer more than once, and Yemez, the name of a Pueblo people of New Mexico. The languages of these two peoples are undoubtedly Khitan. Another group of Khitan names to which I can only briefly refer, as I have already directed attention to them in my paper on "Hittites in America," has been linked with the Kathaei by writers on Indian antiquities. These have supposed that the Kathaei and the Ksha-

trias are one and the same. The Kshatriyas also were Asuras, and of the Asuras were the Pisachas. With these three names, *Asura*, *Kshatriya*, *Pisacha*, may be compared the Basque *Euskara*, *Haitor*, *Basque* and *Guipuzcoa*, the Caucasian *Iskuria* or *Dioscurias*, the Dioscurian *Castor*, who found his way into classical mythology, *Abasech* and *Schapsuch*, the Khita (of Syria) *Sangara*, *Ashteroth* and *Khupuskia*, the Huron Iroquois *Tawiscara*, *Ahatsistari* and *Jouskeha* and the Peruvian *Huascar*, *Ayatarco* and *Pasco*, together with the Kheti *Ashtar*, the Dacotah *Seepohskah*, the Muyscan *Bochica*, and many other isolated members of the triad in other tribes and families.

The original physical features of the Khitan must be found on this continent in regions more or less remote from European influences, for in Spain and the Caucasus, in India, and even in Japan, foreign intermixture has so changed the type that little but language and tradition remain to point out a Khitan origin. The measure of Khitan culture was probably never in excess or greatly in excess of that which anciently prevailed in Mexico and Peru. The savage independence of Khitan character appears equally among the tribes of the Caucasus and the Koriaks of Siberia, on the one hand, and among the Dacotahs and Iroquois of this continent, on the other. It is language, however, that determines the relationship of the various members of this once central and historical but now widely scattered family.

Of the African and Indian members of the dispersion, I prefer for the present to say nothing. In Europe the Basques, with their polysynthetic language are the most westerly of the Khitan. In the Caucasus, under modified grammatical forms, the same language survives among the Lesghians, Mizjeji, Circassians, and Georgians. In Central Siberia the Yeniseians are the remnant of the Katei, whose inscriptions are as unintelligible to them as those of the Mound Builders to our Indians. Of the same family are the whole of Dr. Latham's Peninsular Mongolidae, namely, the Koriaks (including the Tchuktchis) of Siberia, the Kamchatdales, the Ainos, Coreans and Japanese, together with the Yukahiri within the Koriak area. The leading American divisions of the Khitan are: in the northern continent the Dacotahs, Huron-Iroquois, Choctaws, Cherokees, Natchez, Adahis, Shoshonese, the Pujunis and Yumas of California, Pueblos Indians of New Mexico and Arizona, the Sonora tribes, the

Aztecs and the Lencas; and in the south, the Muyscas of New Granada, the Quichas, Aymaras, Atacamenos, Sapibocenos and Cayubabas of Peru, and the Chileno family, embracing the Chileans, Pampas Indians, Patagonians and Fuegians. The Dacotah, Huron-Iroquois, Choctaw, Shoshonese, Pujuni, Yuma, Pueblos, Sonora and Lenca divisions comprise many dialects, and, as I propose to treat the Chileno division as one under the name Araucanian, the same will be true concerning it. The dialectic differences of the Basque are few, as are those of the Circassian and Mizjeji, but the Georgian has four dialects, and the Lesghian at least ten. The Yeniseian, Koriak, Kamchatdale, and Aino divisions each present tribal and dialectic differences, and the language of the Loo Choo Islands provides a complement to that of Japan. These dialectic differences are valuable as furnishing the laws of phonetic change within the bounds of a single language, and as aiding in the application of similar laws to forms of speech widely separated geographically.

Instead of setting forth in this paper the whole of my comparative vocabulary of over 150 words in the various languages and dialects of the Khitan family, which would be more likely to confuse than to convince, I prefer for the present to restrict myself to an exhibition of some of the relations of one such language to its connected forms of speech. The language selected is the Huron-Iroquois in its various dialects, the Huron, Tuscarora, Nottoway, Mohawk, Oneida, Onondaga, Cayuga, Seneca, &c. This is one of the most peculiar and difficult members of the family, differing from all the others known to me in this particular, that no one of its dialects possesses the labials *b*, *p*, *v*, *f*, or the liquid and labial *m*. The nearest approach they can make to a labial sound is *w*, and where *m* cannot be similarly represented it must be replaced by another liquid, *n*. With the Huron-Iroquois language I compare first of all that member of the family which, following the line of Khitan migration backwards, is the most remote from it, namely the Basque of northern Spain and south-western France. Grammatically the two languages agree, for it has been rightly said that the Basque is the most American of the Old World tongues known to philology. A better acquaintance than is at present possessed of the languages of north-eastern Asia would doubtless modify such a statement. Still it is well to be on a right footing with the grammarians, although one of them, M. Vinson, a distinguished Basque scholar, who, some time ago, pub-

lished an article comparing the Basque with the Iroquois, failed to find the grammatical accordance of the languages borne out by the lexicon. This, however, arose from the fact that M. Vinson had not made a special study of the Iroquois, and that he had neglected the geographically intermediate languages which, in some respects, furnish the key to the common origin of the Iroquois and the Basque.

I.—IN A LARGE NUMBER OF INSTANCES, ALTHOUGH THERE ARE MANY EXCEPTIONS, THE IROQUOIS REPLACES THE BASQUE LIQUIDS *l* AND *r* BY ANOTHER LIQUID, *n*.

Take, for example, the Iroquois word for tooth, *honozzia*, *onotchia*. It is easy to perceive the relationship between these forms and the *innotay*, *noti*, of the Choctaw, the *ente* of the Natchez, the *noto* of the Shoshonese, and even the *neas*, *nayha*, of the Lenca. But where, it may be asked, is the similarity between these names for tooth and that of the Yuma, which is *aredoche*? The Basque displays the relation. Its word for tooth is *hortz*, *ortz*, or, in the plural, *hortzac*, *ortzac*. The unaspirated *ortz*, somewhat drawn out as is generally the case in the pronunciation of uncivilized man who has abundance of time for his conversation, becomes, without any consonantal change worth noting, the Yuma *aredoche*. If, however, we apply the rule which transforms the Basque *r* into the Iroquois *n*, then *ortz* becomes *ontz*, and *hortz*, the aspirated Labourdin and Bas-Navarrais form of the word, *hontz*, thus furnishing us with abbreviated but distinctly recognizable equivalents of the Iroquois *onotchia* and *honozzia*. In the Kasi Kumuk dialect of the Lesghian the Basque aspirate is strengthened into *k*, *kertshi* being its rendering of *hortz*. Indeed it may almost be said to be a rule that the Basque aspirate, as an initial letter at least, becomes the Lesghian guttural. The Quichua of Peru follows the same rule, and surpasses the Lesghian in its attenuation of the vowel, by changing *kertshi* to *kiru*. Thus the two forms *onotchia* and *kiru*, which appear to present no feature in common, are found to have the same origin.

A similar instance is that of the Iroquois *kelanguaw*, which denotes the moon, but also the sun. The Pueblo word for sun is *hoolenwah*, with which the Yukahiri name for the same orb, *yelonsha*, invites comparison. But in the Basque the equivalent for *kelanguaw*, the moon, is *hilargia*; and, just as the Yuma *aredoche* cor-

responded with the Basque *ortz*, so does the Yuma *hullyar* almost perfectly reproduce the Basque *hilargia*. Let the Iroquois *n* become *r*, and *kelarquaw* is the Basque *hilargia* and the Yuma *hullyar*. The Quichua, still retaining its original guttural, changes *hilargia* and *hullyar* to *coyllor*, but employs the word to designate not the moon but a star. It is worthy of note that the Yukahiri of Siberia, which renders the sun as *yelonsha*, calls the moon *kininsha*, thus replacing the *l* as well as the *r* of *hilargia* by *n*, and preparing the way for the Aino *kunezu* and another Iroquois form, *kanaughquaw*.

An Iroquois word for an axe or hatchet is *ahdokenh*, and this is the Koriak *adaganu*. Turning once more to the Yuma, the phenomenon presented in *aredoche* and *hullyar* is repeated, for the Yuma word for an axe is *atacarte*. Here again we meet with the Basque, for *atacarte* is to *aizkora* as *aredoche* is to *ortz*. In Aino and Japanese the Basque word takes a prefix *m*, and *aizkora* becomes *masakuri*.

The Yuma gives us *kooruk* for the adjective old, and the Iroquois, *akaion*; here also the Yuma and the Basque agree, for in the latter language old is *agurea*. But in the Lesghian both forms appear, for, while the Avar and three other dialects accord with the Basque and Yuma in *herau*, two, the Akush and Kubetsh, are in harmony with the Iroquois, *ukna* and *okna* being their respective renderings. In North America the Dacotah also gives two forms, that of the Sioux or Dacotah proper being *kon*, and that of the Upsarokas or Crows, *karrahairea*. The double form *karrahairea* is itself far from singular. The Lesghian tribe of the Avars, besides *herau*, uses *mirvara*, which becomes *noorkoor* in Corean, *porugur* in Aino, and *furuberu* in Japanese.

A remarkable word for egg is the Basque *arraultzia*. The application of the rule to *r* and *l* reduces *arraultzia* to *annauntzia*, which is almost the sound of the Iroquois word *onhonchia*. The Quichua agrees with the Iroquois in changing the *l* to *n*, but retains the *r*, and removes the initial vowel; thus *arraultzia* becomes *runto*. A similar elision of the initial vowel takes place in Kamtschatdale, which furnishes the two forms—*ilchatsh* corresponding with the Basque, and *nyhatch* according with the Iroquois.

In all the Khitan languages there is no radical distinction of adjective and verb. Indeed almost any word may become a verb. Taking the word *deud*, therefore, we find it represented by the

Basque substantive so called, *erio*, *heriotce*, and the Iroquois adjective *kenha*. But *kenha* is the same word as *heriotce*, for, while the Lesghian tribes, Tshar and Kabutsh, render it by *chana* like the Iroquois, the other Lesghian tribes, Dido and Unso, agree with the Basques in calling it *haratz*. The Dacotah sides with the Basque in *karrasha*, and the Peruvian Aymara with the Iroquois in *hinata*.

A road or street in Basque is *kharrika*, but in Iroquois *chanheyens*. The Dacotah, which the late Lewis Morgan proved to be of the same stock as the Iroquois, furnishes the more appropriate form *kanga*, while the Lesghian reconciles the Basque and it by its duplicate renderings *chuldu* and *chuni*. The Corean rejects the termination which appears in *kharrika* and *chuldu* and calls a road *kir*.

The Koriak *ennen*, *innaen*, a fish is the Basque *arran*, *arrain*, and the same with the prefix of a guttural is the Iroquois *kunjoon*. So the Iroquois *enia* a finger is the Basque *erhia*, and the Basque *oscola*, the bark of a tree, is the Iroquois *askoontu*. Again, the Quichua rejects the initial vowel and calls bark *kara*. The *t* of *askoontu* which is not found in *oscola* is probably a euphonic addition merely, since it frequently appears, as in *ourata*, a leaf, the Basque *orri*, in *ashuchta*, a hand, the Basque *escua*, and Dacotah *sake*, and in *kihade*, a river, the Kamtchatdale *kiha*.

II.—THE IROQUOIS REPLACES THE BASQUE *m* BY *an*, *en*, *on*; AND THE BASQUE *b* FOLLOWS THE SAME RULE AS *m* WHEN IT IS THE EQUIVALENT OF THAT LETTER IN THE CAUCASIAN LANGUAGES.

One of the best known Iroquois words is *onontes*, a mountain, figuratively employed to denote a governor or great personage, as *onontio*, the beautiful mountain. This form *onontio* probably explains the Hittite word *mati* in the Hamath inscriptions, which I have translated "king." However, the Iroquois *onontes* is the Basque *mentia*. In South America the Basque form is almost given back in the Araucanian *mahnida*, but the Cayubabas of north-eastern Bolivia, a people allied to the Quichuas, are *Vasconibus Vasconiores* and turn the Iroquois *onontes* into *iruretui*.

The word tongue in Basque is *mia*, *mihia*, the Lesghian *mitz* and *mas*. The application of the rule transforms *mas* to *ennas*, which is just *ennasa*, the Iroquois tongue. The Georgian form is *ena*.

The Caucasian *m* is frequently represented in Basque by *b*. Thus the Lesghian *mussur*, *muzul*, the beard, is the Basque *bizarra*.

There is little doubt that the Lesghian form is the more ancient and radical. In the Atacameno, a Peruvian language of the Quichua family, *musur* survives, not indeed as denoting the beard but the hair. The Iroquois therefore instead of rendering the Basque *b* by *w* recognizes the original in *m* and calls a beard *onwskeru*.

A similar word, *burua*, the head in Basque is the Lesghian *mier*, *maar*, the Corean *mari*, the Dacotah *marshaa*, the Sonora *moola*, the Cayubaba *abara-cama* and *nuhuara-cama*. Accordingly in Iroquois its form is not *wara* but *anuwara*.

The radical part of the Iroquois *eniorhene*, to-morrow, is *enior*, and this is the Basque *bihar*, *biar*, *bigar*. While the Iroquois agrees with the Guipuzcoan and Biscayan dialects of the Basque in suppressing the medial aspirate or guttural, it refuses to recognize the initial *b*, and thus claims affinity with the Georgian *micnar* and the Corean *myongir*. The Yuma gives back the Georgian form in *mayyokal*; while the Dacotah and Cherokee, preserving the Iroquois form, prefix a sibilant, *shinnukshare* and *sunahla* being their respective terms.

No unscientific collector of verbal coincidences would dream of associating the Basque *bizkhar*, the back, with the Iroquois *ohnaken*. But when we learn that the Basque *bizkhar* is the Lesghian *machol*, it is easily perceived that by the application of the first law *machol* becomes *machen*, and, by that of the second, *machen* is transformed into *onachen*.

III.—WHEN THE BASQUE *b* IS REPRESENTED BY THE SAME LETTER, OR A CORRESPONDING LABIAL IN THE CAUCASIAN LANGUAGES ITS IROQUOIS EQUIVALENT IS *w*.

A Basque adjective meaning great and wide is *zabala*. In Lesghian it appears as *chvallal*, *chvallase*, and similar forms are furnished by the Shoshonese, Aztec, and Atacameno, namely, *oboloo*, *yzachipul* and *capur*. The first rule changes the Basque and Lesghian *l* into the Iroquois *n*, and, by this third rule, the *b* and *v* of these two languages become *w*. Hence we have *kowanee*, the Iroquois word. It is to be remarked that in certain Lesghian and Iroquois dialects the labial disappears altogether, the Lesghian *kunosa* being the counterpart of the Iroquois *hons*.

The Basque word for grass is *belharra*. Here the Caucasian and Basque agree, for *belharra* is the Georgian *balachi*. Accordingly the

Iroquois form is *wennokera*, a term illustrating the first law as well as the third.

The Basque dialects furnish us with two words for hair, *ileac* and *biloac*. In Iroquois also we find *arochia* and *werochia* or *ahwerochia*. The first form corresponds with the Lesghian *ras*, the Aino *ruh*, and the Dacotah *arra*. In the second we meet with the Circassian *abra*. The final *ac* of *ileac* and *biloac* is the Basque mark of the plural, and is the same in origin and in function as the Iroquois *ke*.

Although not entitled to rank as a law of phonetic change, it is worthy of note, as tending to simplify the exhibition of the common origin of Basque and Iroquois, that *the Iroquois frequently differs from the Basque by inserting a dental between the letters n and r, for purposes of euphony.*

Thus the Iroquois *kanadra*, bread, is the Basque *janhuri*, *janari*, food; for the initial *j*, as we learn from M. Lecluse, though pronounced as in French in the canton of Soule, and as in German in that of Labourt, assumes the power of the Spanish letter in Guipuzcoa, and may be represented by *kh*.

The verb to love in Basque is *onerechi*, *oniritzi*, in which it is easy to recognize the Yukahiri *anoorak*, and the Japanese *noroke*. In Yuma the word is *awvonoorch*. Three Iroquois forms are *en/oorooh-quah*, *aindoorookwa* and *enorongwa*.

A large number of words in Basque and in Iroquois coincide in sound and in signification, and for such coincidence I have so far been able to discover no law. Among these may be mentioned the Iroquois *garioha*, bird, which is the Basque *choria*, the Lesghian *zur*, the Aymara *chiroti*. The final *ti* of the Aymara has also appeared in *hinata*, dead, as compared with the Iroquois *kenha* and the Lesghian *chana*. The Iroquois white, which English missionaries write *kearugea* and the French *kenraken*, is the Basque *churia*, the Japanese *kiroi*, the Loo Choo *shirusa*, the Lesghian *tchalasa*, and the Quichua *yurac*. An Iroquois word for dog is *tichierha*, the Shoshonese *schari*, the Mizjeji (Caucasian) *tkari*, the Georgian *djogori*, and the Basque *zacurra*. So the Basque *hezurra*, bone, is the Iroquois *ohskereh*, and the Cherokee *ookolah*; and the Basque *aztulu*, leg, is the Iroquois *okotara*, and the Lesghian *uttur*. While *geree*, an Iroquois word for tree, agrees with the Basque *chara* and the Quichua *kullu*, meaning wood, another Iroquois form, *kaest*, is the Lesghian *hueta*, *guet*, the Basque *zuaitz*, *zuhaitz*, and the Aztec

quahuit, *quauilt*. The Khitan terms for thunder are like the Semitic *gidgad*. The Lesghian seems to furnish the type in *gurgur*, which is approached by the Basque *curciria*, *ihurzuria*, and aggravated in the Koriak *urgirgerkin*. The Georgian modifies the harsh sound by dropping one of the *r*'s, as in *gurgin* and *kuchili*, the latter of which corresponds with other Koriak forms, *kyhal*, *kyigala*, and with the Kamtchatdale *Kychichlizen*. The Choctaw has the two forms *jyrajaa* and *hiloha*; the Yuma stops short at *aker*; but the Iroquois furnishes a word *kawseras* that agrees more perfectly with the Old World forms.

I have already referred to the Yuma dialects (the Yuma or Cuchan, Maricopa, Mojeve, Dieguno), as valuable members of the Khitan family for comparative purposes. Two Yuma words for cold are *xetchur* and *hutseelo*. The former accords with the Dacotah *hootsheere* and the Iroquois *otsorai*, which the Basque changes to *otsbero*, while in *hutseelo* we find the Lesghian *chuatzala*. The connection of the Iroquois *onyare*, neck, with the Basque *cinzurra* might seem doubtful, as the Basque sibilant and guttural prefixes are generally more conspicuous by their absence than by their presence. But the Yuma form *hennceil* shows that it is the Iroquois which errs by default in this respect. The Yukahiri *jomuel* restores that original form which would naturally have been looked for in the Basque, and leads the way to the Lenca *ampshala*. The Lesghian word *gabur*, which could never be evolved out of *cinzurra*, naturally rises out of *jomuel*.

The Iroquois *onuste*, maize, and the Basque *arto*, *arho*, have little in common. The Yuma *turrichte*, however, dropping the initial *t* and applying the first rule as if it were a Basque word, becomes *annichte*. Another Yuma form is *terditch*, with which may be compared the Lesghian *zoroto* and the Circassian *nartuch*, and with these the relation of the Basque *arto*, *arho* is easily perceived.

Still another Yuma word meaning to speak is *atchahquerck*. This is undeniably the Aino *itakguru*. But another Aino dialect gives *idakuwa*, and this prepares us for the Iroquois *utakia* and the Basque *itzegin*. The nearest word to the Yuma *haweel*, meaning a river, is the Aymara *hakuiri* or *hawiri*, and this is plainly the Lesghian *uor*, *chyare*, and the Basque *uharre*, *uharka*. In *chyare*, by the application of the first rule, we detect the Iroquois *kahionha*.

In some cases the Basque word, while agreeing with the Iroquois, differs from the Lesghian, so that both Iroquois and Basque must be brought under the first rule, in which Lesghian must take the place of Basque. Thus the word for name is in Iroquois *chinna* and in Basque *icena*, while the Lesghian form is *zar*.

Certain roots also which I have not found in Basque unite the Lesghian and the Iroquois. Such is the Lesghian *surdo*, night, which is the Iroquois *asunto*. Another Lesghian form *chur* agrees with the Aino *asiru*. The Lesghian *ras*, a feather, is the Iroquois *onasa*. The Iroquois word for rain, *iokennores*, is not very like the Lesghian Kasi-Kumuk form *kural*, but is at once recognisable in that of the Akush dialect, which is *kanili*. In fact the phonetic changes which I have pointed out as existing between the Basque and the Iroquois are really found operating in greater or less measure within the bounds of individual Khitan languages both in the Old World and on this continent. Even the Kamtchatdale, which generally accords with the Iroquois, gives occasionally a Basque form, as in *kchailta*, the belly, as compared with the Iroquois *kehonta*.

Before concluding the list of examples, which, however tiresome to enumerate, I feel are due from me to those who would themselves judge the validity of the laws which I have enunciated, I wish to set forth the relations of two connected Iroquois words the derivation of which has long been sought in vain. The first is the word for house *onushag*, *kanuchsa*, *anonchia*, *kanonsa*. Beginning near home, the Shoshonese *niki* and Sonora *nikki* should not be foreign to the Iroquois forms, especially as another Shoshonese form *kanuke* almost reproduces the Iroquois *kanuchsa*, and as the Sonora *kaliki* is the same word. The Shoshonese has still another form *liki*, which is the Araucanian *ruka*, and the Lesghian *ruk*. If, however, we ask how the Iroquois forms *anonchia* and *kanonsa* obtained their double *n*, we must be referred to the Koriak, which renders the Lesghian *ruk* by *oranga*, and this the Iroquois changes to *on nga*, *anonchia*. The Aztec *calli*, different as it may appear, is the same word, for the Sonora which gave us *kaliki* abbreviates this in certain dialects into *kari*, from which *calli* is derived by the simplest of all phonetic changes. The other word is that which gives name to our Dominion, *kanada*, *kanata*, a village. Nobody would dream of associating it with the Natchez word *walt*, and yet their derivation is one. The language of the Yenisei furnishes the original term, *kelet*, *koleda*,

unless we are disposed to admit the prior claims of the Circassian *sheel 'ay* or the Georgian *kalaki*.

Nothing can prove more convincingly the wonderful vitality of words even among peoples devoid of literature than the comparison just instituted between the Basque and the Iroquois. If it be allowed that the separation of the two stocks only took place at the time when the Hittite empire was overthrown by the Assyrian Sargon, for certainly it can be placed at no later period, then it follows that 2,600 years have passed since the ancestors of the Vascones and those of our Hurons and Iroquois mingled their voices on the banks of the Euphrates. But if, as is far more probable, the Basques reached their Spanish home by way of Northern Africa, this journey must have been undertaken long centuries before, when that Shepherd tide of conquest, in which the Kheti formed a mighty wave, was driven back upon the desert sands and the Mediterranean shore by the great Egyptian Pharaohs of the 18th dynasty. When Moses was still a child, and the ancient Hebrew language had not yet assumed a literary form, the Khitan wanderers carried their imperishable speech across the Libyan sands to plant it at last in the remotest bound of the European continent.

Even now we hear much of the Atlantis theory, of the population of America from Western Europe and Africa by means of a submerged continent, or by such brave sea daring as brought Columbus to the New World, and the very connection of the Basque and Iroquois languages tempts the question: May there not be truth in such a theory? But language, which has established the relationship of the peoples, refutes the theory. Our Huron-Iroquois came not to the east first but to the west, not to the south but to the north. Their features, their religion, their character and customs are distinctively Koriak, and their appearance upon the stage of American history began at a time when, had Biscay or Morocco been their starting point, they must have brought with them some traces at least of mediæval culture. Euskara and Basque, names of a people only in Spain, are to the Iroquois Tawiscara and Jouskeha, gods or divine ancestors of the race, whose memory has vanished long years ago from Guipuzcoa and Navarre. The Basque is a seaman, but some other race than his own, that of his mother, it may be, who gave the European tint to his dusky complexion, must have taught him to hold the sail and brave the dangers of the ocean, for the

Khitan, fierce, warlike, indomitable, as many of their tribes have proved themselves on mountain and plain, have never taken rank among the masters of the sea. Their very passage to this Western World has been the stepping stones of the Kurile and Aleutian Isles, with land in sight for almost all the way.

To return to language; we look in vain in our Basque lexicons for the compound words of the Iroquois tongue, but in Koriak, in Kamtchatdale, and in Japanese, we discover, not indeed the precise words, for a few centuries may suffice to alter these, but some of the elements of which they are composed. Take, for instance, the Iroquois word for silver. It is *hwichtan-oron*. I am not sufficiently versed in ancient Iroquois to know the meaning of its component parts, but there can be no doubt that the first of these, *hwichtan*, is the same as *wyachtin* in the Koriak word *elnipel-wyachtin*, denoting the same metal. An Iroquois word for the colour yellow is *cheena-guarle*, and *uarle* is apparently the same word as *karallo* in the Kamtchatdale *duchl-karallo*, which means not yellow indeed but green, colours not always distinguishable by savages, for the Koriak uses the same term, *nijil-tshachain*, for both. Another Iroquois word for yellow is *hotyikkwa-rogon*, of which the latter member, *rogon*, corresponds with *grachen* in the distinctive Koriak term for yellow, *nuntel-grachen*. We are on a surer foundation in regard to the Iroquois words for red, two of which are *otquech taroku* and *quwen-tarogon*. The first part of each word is a variation of the terms *otweacha*, *hotkwensa*, blood. The Koriak red is *nitshel-rachen*, although *nitshel* is sometimes used alone. The latter Koriak word does not seem to denote blood. Still the *rachen* of *nitshel-rachen*, red, and the *grachen* of *nuntel-grachen*, yellow, are doubtless variations of the Iroquois *rogon* of *hotyikkwa-rogon*, yellow, and the *tarogon* of *quwen-tarogon*, red. The explanation of these terms is found in the Japanese. One of its words for red is *chi-darake-no*, literally, "smeared with blood," for *chi* denotes "blood," and *darake*, or with the particle *darake-no*, means "smeared with." Hence the Iroquois words for red, in which we have already found the equivalents of the Japanese *chi*, blood, plainly exhibit their Northern Asiatic origin, for *taroku* and *tarogon* are the Japanese *darake* and *darakeno*, as well as the *rachen* and *grachen* of the Koriak. Taking the Japanese also as the more correct form of the language, it follows that the Iroquois have been

more careful of their speech than the Koriaks. The Atlantis theory gains no support from philology.

If in this paper I have not exhibited the relation of the Iroquois dialects to those of all the divisions of the Khitan family, it is not from lack of material or in order to avoid any difficulty. I have purposely chosen for comparison languages the most remote in place and in time of separation from the original tongue, languages of peoples most unlike in present feature and character, whose sole connecting link has been supposed to be the common possession of a complicated grammatical system marked by polysynthesis. That I have succeeded in showing the relation of these languages to one another and at least to some of the intermediate members of the Khitan family, will be granted, I doubt not, by all true philologists who do not shut their eyes at antecedent improbability.

RULE I.

THE IROQUOIS REPLACES THE BASQUE *l* AND *r* BY *n*.

BASQUE.	RULE APPLIED.	IROQUOIS.	ENGLISH.
1. ortz, hortz	ontz, hontz	onotchia, honozzia	tooth
2. hilargia	hilangia	kelanguaw	moon
3. aizkora	aizkona	ahdokenh	axe
4. agurea	agunea	akaion	old
5. arraultzia	annauntzia	onhonchia	egg
6. herio	henio	kenha	dead
7. kharrika	khannika	chanheyens (<i>Dacotah</i> , canga)	road
8. arrain	annain	kunjoon	fish
9. erhia	enhia	enia	finger
10. oscola	oscona	askoonta	bark

Note.—ILLUSTRATIONS OF THE RULE IN OTHER LANGUAGES.

BASQUE FORMS.	IROQUOIS FORMS.
1. ortz = rytti, <i>Koriak</i> ; aredoche, <i>Yuma</i> hortz = kertyshi, <i>Lesghian</i> ; kiru, <i>Quichua</i>	onotchia = innotay, noti, <i>Choctaw</i> ; ente, int, <i>Natchez</i> ; noto, <i>Shoshonese</i> ; neas, nigh, nagma, <i>Lenca</i>
2. hilargia = hullyar, <i>Yuma</i> ; coyllor, <i>Quichua</i>	kelanguaw = gailgen, <i>Koriak</i> ; yelonsha, <i>Yukahiri</i> ; hoolenwah, <i>Pueblos</i> .
3. aizkora = masakari, <i>Japanese</i> , <i>Aino</i> ; ata- carte, <i>Yuma</i>	ahdokenh = adaganu, <i>Koriak</i> ; tlateconi, <i>Aztec</i> .
4. agurea = herau, <i>Lesghian</i> ; kooruk, <i>Yuma</i> ; karrahaira, <i>Dacotah</i>	akaion = ukna, okna, <i>Lesghian</i> ; kon, <i>Dacotah</i>
5. arraultzia = ilchatch, <i>Kamitchatdale</i> ; runto, <i>Quichua</i>	onhonchia, = nyhatch, <i>Kamitchatdale</i> ; nanki, <i>Shoshonese</i>
6. herio, heriotce, = haratz, <i>Lesghian</i> ; carrasha, <i>Dacotah</i>	kenha = chana, <i>Lesghian</i> ; hinata, <i>Aymara</i>
7. kharrika = shara, <i>Georgian</i> ; chuldu, <i>Lesghian</i> ; kir, <i>Corean</i>	chanheyens = chuni, huni, <i>Lesghian</i> ; canga, <i>Dacotah</i> ; hinah, <i>Choctaw</i>
8. arrain = atlan, <i>Aztec</i>	kunjoon = ennen, innaen, <i>Koriak</i> ; henni, <i>Natchez</i> ; kani, <i>Aymara</i>
9. erhia = killish, <i>Lesghian</i> ; gelyhat, <i>Koriak</i> ; hal, <i>Yenisei</i>	enia = onkahah, <i>Dacotah</i>
10. oscola = kerki, <i>Georgian</i> ; ichalgyn, <i>Koriak</i> ; kara, <i>Quichua</i>	askoonta = kani, <i>Georgian</i> (skin); cangha, chanha, <i>Dacotah</i>

RULE II.

THE IROQUOIS REPLACES THE BASQUE *m* BY *an*, *en*, *on*, AND THE BASQUE *b* BY THE SAME WHEN *b* IS THE EQUIVALENT OF THE CAUCASIAN *m*.

BASQUE.	CAUCASIAN.	IROQUOIS.	ENGLISH.
1. mendi	mta, <i>Georgian</i> suntu, <i>Lesghian</i>	onontes	mountain
2. mia, mihia	mitz, mas, <i>Lesghian</i> ena, <i>Georgian</i>	ennasa	tongue
3. bizarra	inussur, muzul, <i>Lesghian</i>	onwskera	heard
4. burua	mier, maar, <i>Lesghian</i>	onuware	head
5. biar, bihar, bigar	micar, <i>Georgian</i>	enlor-hene	to-morrow
6. bizkhar	machol, <i>Lesghian</i>	ohnaken	back

Note.—ILLUSTRATIONS OF THE RULE IN OTHER LANGUAGES.

BASQUE AND CAUCASIAN FORMS.

1. mendia = mahnda, *Araucanian*;
pinujidtah, *Kamtschadale*
2. mia, mas = mutt, motte, *Miajeji*
3. bizarra, mussur = musur, *Atacameno*;
muzul, (hair)
4. burua, mier, maar = mari, *Corean*;
marshaa, *Dacotah*; moola, *Sonora*;
abara-cama, *Cayubaba*
5. biar, micar = myongir, *Corean*;
mayyokal, *Yuma*; miecar, *Yuma*
(morning); emukulas, *Kamtschadale*
(morning)
6. bizkhar, machol = ushiro, *Japanese*

IROQUOIS FORMS.

- onontes = suntu, *Lesghian*; neit, *Koriak*
nemichaha, *Choctaw*
ennasa = ena, *Georgian*; onnor, *Yukahiri*;
neeighjee, *Dacotah*; yahnohgah, *Cherokee*;
honinee, *Pueblos*; anongin, *Shoshonese*;
neneti, *Aztec*; ine, *Cayubaba*
onwskera = hanoockquell, *Shoshonese* (chin);
hantur, *Atacameno*
anuware = nahuar-acama, *Cayubaba*
- enlor-hene = unhaiel, *Yukahiri* (morning);
onnhile, *Choctaw* (morning); sunahla,
Cherokee (to-morrow and morning);
shinnakshare, *Dacotah* (to-morrow and
morning); yanrne, *Shoshonese* (morning)
ohnaken = senaka, *Japanese*

RULE III.

THE IROQUOIS REPLACES THE BASQUE *b* BY *w* WHEN *b* IS THE EQUIVALENT OF A LABIAL IN THE CAUCASIAN LANGUAGES.

BASQUE.	CAUCASIAN.	IROQUOIS.	ENGLISH.
1. zabala	chvallal, chvallase, <i>Lesghian</i>	kowanea	great
2. belharra	balachi, <i>Georgian</i>	wennokera	grass
3. biloeac	abra, <i>Circassian</i>	ahwerochia	hair

RULE IV.

THE IROQUOIS INSERTS A DENTAL BETWEEN THE BASQUE *n* AND *r*.

BASQUE.	IROQUOIS.	OTHER LANGUAGES.	ENGLISH.
1. janari, janhari	kanadra	kendowan, <i>Koriak</i>	bread, food
2. onerechi, oniritsi	aindoorohquah aindoorookwa	anurak, <i>Yukahiri</i> noroke, <i>Japanese</i> awvonoreh, <i>Yuma</i>	to love

ROOTS COINCIDING IN BASQUE AND IROQUOIS.

BASQUE.	IROQUOIS.	OTHER LANGUAGES.	ENGLISH.
1. choria	garioha	zur, <i>Lesghian</i> ; chiroti, <i>Aymara</i>	bird
2. churia	kearagea	kiroi, <i>Japanese</i> ; shirusa, <i>Loe Choo</i>	white
3. zacurra	tachierha	tchalasa, <i>Lesghian</i> ; yurac, <i>Quichua</i> djogori, <i>Georgian</i> ; tkari, <i>Miajeji</i> schari, <i>Shoshonese</i>	dog
4. hezurra	ohskereh	ookolah, <i>Cherokee</i>	bone
5. astala	okotara	uttur, <i>Lesghian</i>	leg
6. chara zuaitz, zuhaitz	gerec kaect	kullu, <i>Quichua</i> hueta, <i>guet, Lesghian</i> quahuit, <i>quauilt, Aztec</i>	wood, tree
7. curciria	kawsetas	gurgur, <i>Lesghian</i> urgirgerkin, <i>kyhal, kyigale, Koriak</i> kychichlizen, <i>Kamtschadale</i> gurgin, <i>kuchili, Georgian</i> lyrajaa, <i>hiloha, Choctaw</i> ; aker, <i>Yuma</i>	thunder

THE YUMA DIALECTS AS AIDS TO COMPARISON.

IROQUOIS.	YUMA.	BASQUE.	OTHER LANGUAGES.	ENGLISH.
1. otsoral	xetchur hutseelo	otsbero	chuatzala, <i>Lesghian</i>	cold
2. onyare	henneel	cinzurra	Joimuel, <i>Yukahiri</i> ampshala, <i>Lenca</i> gabur, <i>Lesghian</i> zoroto, <i>Lesghian</i> nartuch, <i>Circassian</i> itakguru, <i>Idakuwa</i> , <i>Aino</i> uor, chyare, <i>Lesghian</i> hahuri, <i>Aymara</i>	neck, throat
3. onuste	tarrichte terditch	arto, artho		maize
4. atakia	atchahquereck	itzegin		to speak
5. kahionha	haweel	uharre		river

(See also under Illustrations of Rule I.)

MISCELLANEOUS EXAMPLES OF AFFINITY.

IROQUOIS.	CAUCASIAN.	OTHER LANGUAGES.	ENGLISH.
1. chinna	zar, <i>Lesghian</i>	icena, <i>Basque</i>	name
2. asunto	surdo, chur, <i>Lesghian</i>	asiru, <i>Aino</i>	night
3. onasa	ras, <i>Lesghian</i> kanesh, <i>Mizjei</i>	hanni, <i>Loo Choo</i>	feather (wing)
4. ikennores	kanili, kural, <i>Lesghian</i>	chenar, <i>Shoshonese</i>	rain (hail)
5. kchonta	siarad, <i>Lesghian</i>	kchailta, <i>Kamchatdale</i> xillantli, <i>Aztec</i>	belly
6. onushag, kanonsa	ruk, <i>Lesghian</i>	ruka, <i>Auracanian</i> kanuke, liki, niki, <i>Shoshonese</i> kaliki, cari, nihki, <i>Sonora</i> calli, <i>Aztec</i> ; orange, <i>Koriak</i> kelet, koleda, <i>Yenisei</i>	house
7. kanada, kanata	sheelday, <i>Circassian</i> kalaki, <i>Georgian</i>	walt, <i>Natchez</i>	village

THE RELATION OF COMPOUND WORDS IN IROQUOIS.

IROQUOIS.	JAPANESE-KORIAK.	ENGLISH.
1. hwichtan-oron	elnipel-wychtin, <i>Koriak</i>	silver
2. cheena-guarle	duchi-karallo, <i>Kamchatdale</i>	yellow
3. hoytikwa-rogon	nuutel-grachen, <i>Koriak</i>	yellow
4. otqueeh-taroku quwen-tarogon	nitshel-rachen, <i>Koriak</i> chi-darake, chi-darakeno, <i>Japanese</i>	red

